



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3009-3
Job Sheet 167207



Part No: D3009-3

Job Qty: ~~2~~ ea **30**

Part Name: Cup



Part Weight: 0 lbs

Status: Scheduled

Priority: High

Job Created: 10/26/17

Job Tracking No:

Due Date: 11/3/17

Created By: Mario Poulin

Type: Stock

Description:

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	20 Ea		11/2/17	0.00	0.00	Start Up Machining		
100	Hardinge	20 pcs		11/3/17	0.00	2.37	Hardinge		
120	QC	20 pcs		11/3/17	0.00	0.00	QC8		
130	Packaging	20 pcs		11/3/17	0.00	0.00	Packaging3		
140	QC21-SA	20 Ea		11/3/17	0.00	0.00	QC21		MLD 12-10-30

Part Op 100 - 1-TURN AS PER FOLIO FA130 & DWG D3009
Descriptions: 130 - *****STOCK IN LARGE FAB***** LOCATION WA002

5002 743

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M304R1.000	1	10	0	0

M138346

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Cup	0.875Inches + 0.000 - 0.005	0.875 0.870	Diameter	
2	Cup	0.750Inches + 0.008 - 0.001	0.758 0.749	Diameter	
3	Cup	0.266Inches + 0.006 - 0.001	0.272 0.265	Diameter	
4	Cup	0.062Inches ± 0.010	0.072 0.052	Radius	
5	Cup	0.094Inches ± 0.010	0.104 0.084		
6	Cup	0.353Inches ± 0.010	0.363 0.343		
7	Cup	0.063Inches ± 0.010	0.073 0.053		
8	Cup	0.032Inches ± 0.010	0.042 0.022	Radius	
9	Cup	45.000Degrees ± 0.000	45.000 45.000	Angle	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



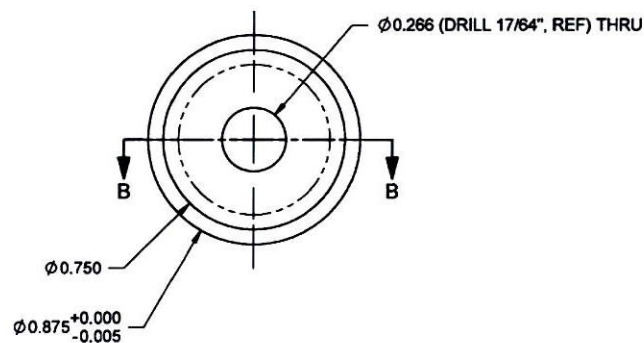
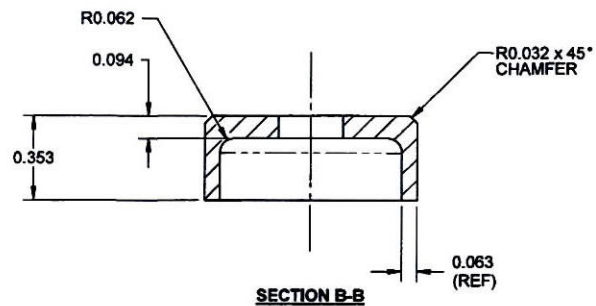
Checksheet 98 - In Process

Part D3009-3- Cup	Operation Hardinge	Inspection Step QC2	Workcenter Hardinge	SPC Checksheet Container Text	Job No 167207
Date/Time 10/28/17 12:56 PM		Inspector Perrier, Luc		Special Comments	
No	Specification	Target	Limits	Measurements	Special Comments
1	Cup	0.875 Inches	0.875 0.870	0.873	
2	Cup	0.750 Inches	0.758 0.749	0.752	
3	Cup	0.266 Inches	0.272 0.265	0.267	
4	Cup	0.062 Inches	0.072 0.052	0.062	
5	Cup	0.094 Inches	0.104 0.084	0.098	
6	Cup	0.353 Inches	0.363 0.343	0.353	
7	Cup	0.063 Inches	0.073 0.053	0.058	
8	Cup	0.032 Inches	0.042 0.022	0.030	

Plex 12/7/17 10:37 AM Dart.Downing.Eric

Job 167207
Part No: D3009-3 Container Notes Operation: QC Op No: 120 Current Status: Completed Workcenter: QC8 (0) Quantity: 50 pcs
Attachments: 
Standard Hours: 0.00 Actual Hours: 0.06667 Started: 10/29/17 9:58 AM Lamarche, Mathieu Produced: 50 pcs Completed: 10/29/17 10:05 AM Lamarche, Mathieu

Containers					
Container	Last Operation	Location	Heat Code	Status	Qty
Checksheets					
QC8 - D3009-3 Inspector 10/29/17 10:00 AM					



D3009-3 CUP

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL ROUND BAR
(REF DART SPEC M304R)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.03 lbs

RELEASE
03-01-07-10

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3009	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CUP	2:1
DATE	07.12.12	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

MAT. Certs For
D 3009-3 5002743/816
5003675/1
B

Purchase Order Receipt Listing

Wednesday, August 23, 2017 2:28:55 PM

All amounts are calculated in domestic currency.

Page 1 of 2

All Vendors PO ID PO37486 All Receipt Dates All Line Item Types
All Item ID/GL/WOs All Rec. Employees All Currencies
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID/Vendor Name		VC-CAM002	Acier Ouellette Inc								
PO37486	5		M303R0.500 ✓ f	DAS	8/25/2017	8/23/2017	24.0000 ✓	\$1.82	0.0000	0	\$43.59
CAD	No		303 Round Bar 0.500" f	5	24.0000	PLOU01		\$43.59	0.0000	0	
			m138346	9-89							
	9		M304R1.000 f	DAS	8/25/2017	8/23/2017	12.0000 ✓	\$6.33	0.0000	0	\$75.95
	No		304 round bar 1.00 f	5	12.0000	PLOU01		\$75.95	0.0000	0	
			m138346	9-89							
	10		M304S11GA sf	DAS	8/25/2017	8/23/2017	32.0000 ✓	\$9.80	0.0000	0	\$313.48
	No		304/316 0.125 Sheet sf	5	32.0000	PLOU01		\$313.48	0.0000	0	
			m138346 0117	9-89							
	11		M304S18GA sf	DAS	8/25/2017	8/23/2017	64.0000 ✓	\$4.29	0.0000	0	\$274.52
	No		304/316 .050 Sheet sf	5	64.0000	PLOU01		\$274.52	0.0000	0	
			m138346 047	9-89							
	12		M304S16GA sf	DAS	8/25/2017	8/23/2017	64.0000 ✓	\$5.21	0.0000	0	\$333.66
	No		304/316 Sheet .063 sf	5	64.0000	PLOU01		\$333.66	0.0000	0	
			m138346 058	9-89							
	13		M304S24GA sf	DAS	8/25/2017	8/23/2017	32.0000 ✓	\$2.32	0.0000	0	\$74.27
	No		304/316 .025 Sheet sf	5	32.0000	PLOU01		\$74.27	0.0000	0	
			m138346 023	9-89							
	15		M6061T6R0.750 f	DAS	8/25/2017	8/23/2017	20.0000 ✓	\$1.07	0.0000	0	\$21.44
	No		6061-T6 Round Bar f	5	20.0000	PLOU01		\$21.44	0.0000	0	
			.750"	9-89							
			m138346	DAS							
	16		M6061T6R1.250 f	5	8/25/2017	8/23/2017	20.0000 ✓	\$2.95	0.0000	0	\$59.08
	No		6061-T6 Round Bar f	9-89	20.0000	PLOU01		\$59.08	0.0000	0	
			1.250								
			m138346								
	17		M6061T6S.125 sf		8/25/2017	8/23/2017	32.0000 ✓	\$5.17	0.0000	0	\$165.46
	No		6061-T6 .125 Sheet sf		32.0000	PLOU01		\$165.46	0.0000	0	
			m138346								



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37486**

Purchase Order Date 8/21/2017

PO Print Date 8/21/2017

Page Number 4 of 9

Order From :

VC-CAM002

ACIER OUELLETTE INC.
935 BOUL. DU HAVRE
VALLEYFIELD, QC J6S 5L1
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 800 667 4248

Ship To Contact

Ship To Phone

Ship Via: Yours ppd

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

8	M304B0.750X2.500	304 BAR .750 X 2.50	8/25/2017	12.00	\$23.33	\$280.00
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Yes

f

8/25/2017

MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS
AS PER ASTM A276 OR ASTM A240

NOTE: AISI 303 NOT ACCEPTABLE

Line Total: \$280.00

9	M304R1.000	304 round bar 1.00	8/25/2017	12.00	\$7.90	\$94.82
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Yes

f

8/25/2017

MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276

(NOTE: AISI 303 NOT ACCEPTABLE)

Line Total: \$94.82

SP178-23

PO Instructions: quotation, sou0052051

Note:

8/21/2017

**ACIER OUELLETTE INC.**

935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

CO00046823

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Delivery Route 5**Customer N°**

CLI0001056

Date

2017/08/22

Delivery date**2017/08/17****Your order N°**37486**Processed by**

Frederic Leboeuf

Salesman**Carrier**

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

Page

1

Instruction F-M

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND SS 1/2 303 (12R) ✓ RSS-12303-12 5726 2 X 12' R/L	16.01	24.00	PI_\$CLB	✓	2x12'						
2 ROUND SS 1 304 (12R) ✓ RSS-1-12 5712 1 X 12' R/L	32.04	12.00	PI_\$CLB	✓	1x12' 1/2"						
3 SHEET SS 11G SS304-2B (4 X 8) ✓ FESS-11G483042B 3402 1 X 4' X 8'	168.00	32.00	PI2_\$CLB	✓	1x						
4 SHEET SS 18G SS304-2B (4 X 8) ✓ FESS-18G483042B 3425 2 X 4' X 8'	134.40	64.00	PI2_\$CLB	✓	2x						

NW

NIR : R-109516-6

SP78-23.

Next Page...



DELIVERY - CLIENT

C000046823

ACIER OUELLETTE INC.

935, Boul. du H vre
Salaberry de Valleyfield (Qu bec) J6S 5L1
T l.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Billed to

DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

Delivery Route 5

Customer N 

CLI0001056

Date

2017/08/22

Delivery date**2017/08/23****Your order N **

37486

Processed by

Frederic Leboeuf

Salesman**Carrier**

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

Page

1

Instruction F-M

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND SS 1/2 303 (12R) RSS-12303-12 5726 DAS 2 X 12' R/L 5 HEAT : 427059 9-89	16.01	24.00	PL \$CLB								
2 ROUND SS 1 304 (12R) RSS-1-12 5712 DAS 1 X 12' R/L 5 HEAT : CH-6101 9-89	32.04	12.00	PL \$CLB								
3 SHEET SS 116 SS304-2B (4 X 8) FESS-11G483042B 3402 DAS 1 X 4' X 8' 5 HEAT : 290 F 9-89	168.00	32.00	PI2 \$CLB								

NIR : R-109516-6

Next Page...

#5712



CHANDAN STEEL LIMITED

(GOVT. OF INDIA RECOGNISED EXPORT HOUSE)

ISO 9001 : 2008 CERTIFICATE No. 0110001022

ML. OFFICE: 56, N. K. SAGAR, N. S. PATEL MARG, MUMBAI 400 002, INDIA

Tel: 91-22-66298881 Fax: 91-22-66298617/14

Website: www.chandan-steel.net

E-mail: info@chandansteel.net

WORKS: Plot No. 35, G. I. D. C., Undergaon

Dist Valsad, Gujarat - 396 171.

Tel: 91-260-308 9999 Fax: 91-260 308 9872

E-mail: export@chandansteel.net

No.:

Date:

F824 QC 09A/02/10.12.2012

MILL TEST/INSPECTION CERTIFICATE 3.1

ACCORDING TO EN 10204 : 2005

Signature	Test Certificate No. : EXP/00147 - 08/2017-2018
	Date of Issue : 12.05.2017
	P. O. No. : BN5607
	SC No. & Date : 16-17/00787, Dt.16.03.2017
	Invoice No. & Date : EXP/00147/2017-18 Dt.12.05.2017

PRODUCT DESCRIPTION	LENGTH	Net Wt.
STAINLESS STEEL ROUND BARS	Ordered 12' - 14'	Actual 12' - 14'
		2976 Lbs.

Heat No.	Grade	Size	Tolerance	Process Route
CH-6101	AISI 304L	1"	h9	Electric Melting, A.O.D. Refining, Continuous Casting

CHEMICAL COMPOSITION (Weight %)

	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Ti	N
Min.	-	-	-	-	-	18.00	-	8.00	-	-	-
Max.	0.030	1.00	2.00	0.045	0.030	20.00	-	12.00	-	-	-
Results	0.024	0.43	1.75	0.039	0.012	18.20	-	8.03	-	-	-

MECHANICAL PROPERTIES

Specified	Yield Strength	Tensile Strength	Elongation	Reduction of Area	Hardness
Value	N/mm ² /MPa (Rp0.2)	N/mm ² /MPa (Rm)	%	%	(HB)
Min.	170	485	30	40	-
Max.	-	-	-	-	-
Results	395	685	41	65	215-218

Remarks:

Cold drawn & Centreless Ground.

2. Solution annealed at 1050 °C.

PML test done 100% & found Satisfactory.

Material is free from radio-active contamination.

Inter-Granular Corrosion Test as per ASTM A262 - 15 (Pr.E) satisfactory.

The material conforms to ASTM A276-15/A182-15/A479-15 Specifications.

Location of sample - Centre, Direction - Longitudinal, Test Temp - Room Temp., Shape of Test Piece - Round.

Marking details - Company Logo, Size, Grade & Heat No.

The material is manufactured/melt in Chandan Steel Mill and is of Indian Origin.

No welding/weld repairs was performed on this material.

JNDI ENO: 34 & 35

It is hereby certified that the above results are true and correct in every

B. S. RAUTELA



SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR
(NOTE: AISI 303 NOT ACCEPTABLE)

△/B SPECIFICATION: ASTM A276

PART NUMBER: M304R0.DDD
DIA.

5
9-89

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M304R0.750

RELEASED
01/07/25/14

B	REFORMAT DWG, ADD SPECS (ZIN D6-1). REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	AJS	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	97	HAMKESBURY, ONTARIO, CANADA	
CHECKED	97	DRAWING NO.	REV. B
MFG. APPR.	MD	M304R	SHEET 1 OF 1
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	304/316 ROUND BAR	NTS
DATE	09.07.15	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMERCIAL PURPOSES WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304S1194
 DATE: AUG 24 2017

PO / BATCH NO.: P037486/4135346

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 3259 ft
 QUANTITY INSPECTED: 3259 ft
 QUANTITY REJECTED: 2

THICKNESS ORDERED: .125"
 THICKNESS RECEIVED: .117"
 SHEET SIZE ORDERED: 4x8
 SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒ N	
CORRECT FINISH	☒ Y ☒ N	
CORROSION	Y ☒ N	
CORRECT GRAIN DIRECTION	☒ Y ☒ N	
CORRECT MATERIAL PER M-DRAWING	☒ Y ☒ N	<u>AMS 5513</u>
CORRECT THICKNESS	☒ Y ☒ N	
PHOTO REQUIRED	Y ☒ N	
CORRECT REF # TO LINK CERT	☒ Y ☒ N	<u>Ht # 290F</u>
CORRECT MATERIAL IDENTIFICATION	☒ Y ☒ N	
CORRECT M# ON THE MATERIAL	☒ Y ☒ N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>5</u> DATE: <u>AUG 24 2017</u> <u>9:59</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in